

*Environmental Assessment*

for the

**Construction of a Boat Ramp at Mullins Pit**

**Eielson Air Force Base, Alaska**

**354th Fighter Wing  
April 2006**

## Report Documentation Page

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**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**  
and  
**FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)**  
for the  
**Construction of a Boat Ramp at Mullins Pit**

**Description of the Proposed Action**

Eielson Air Force Base (Eielson) is a military facility that has a population of nearly 9,000, including active duty, dependents, and civilians. It is important that the base have recreational facilities that are readily accessible due to the base's isolation from off-base facilities. Eielson has provided recreational opportunities in the form of fishing at several base lakes, including Mullins Pit. To enhance the Mullins Pit facility, Eielson is proposing to construct a boat ramp on the lake's north end that will provide enhanced access to a popular on-base fishing area. Currently, fishing access is limited to a small portion of the shoreline.

**Alternatives to the Proposed Action**

One other alternative was identified for this project that would result in the construction of two 50-foot-long fishing piers that would be extended into the lake to provide fishing access to portions of the lake. The piers would be constructed on wooden pilings that would be driven into the lake bottom.

**No Action Alternative**

The no action alternative would result in no increased fishing access to Mullins Pit.

**Environmental Impacts of the Proposed Action**

**Wetlands**

The proposed project will result in the filling of 510 square feet of lake bottom habitat with concrete planks as part of the construction of the boat ramp. These wetlands provide moderate value habitat for fish species that utilize shallow water habitat for feeding. Due to the preponderance of this type of habitat in Mullins Pit, fish currently using this portion of the lake bottom will be displaced to adjacent habitat.

**Biological Resources**

Impacts to biological resources from the Proposed Project are expected to result mainly from the loss of 50 feet of shoreline shrub vegetation that will be removed for the footprint of the project. This vegetation provides habitat for a variety of small birds that use the shrubs for nesting and brood-rearing. In most cases, the birds will be displaced to similar adjacent habitat.

**Threatened or Endangered Species**

The project area is not suitable habitat for any of the threatened or endangered species occurring in the Alaskan interior.

### Historical or Cultural Resources

Most archeological sites on Eielson AFB lands have been identified and mapped. The proposed project is not associated with any known sites. In the event that historic or cultural sites are discovered during project construction, activities will be halted and a professional archeologist will evaluate the find.

### Air Quality

The proposed actions will have minor air quality impacts during construction due to fugitive dust and machinery exhaust. Such impacts will be highly localized and temporary in nature.

### Mitigation

Standard best management practices have been incorporated into the project design to mitigate impacts to the environment. These include creating a coffer dam to isolate the project area from Mullins Pit, controlling sediment of waters removed from the project area, and revegetating all disturbed soils. No special conditions (mitigation) were required by any federal or state agency that reviewed and/or commented on the Army Corps of Engineers wetlands permit for this project.

### Public Comment

No public comment was received from the public noticing of the EA/FONSI/FONPA or the Corps of Engineers Permit for this project.

### Findings

Pursuant to the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) implementing regulations for NEPA (40 CFR Part 1500-1508), and Air Force Instruction 32-7061, *Environmental Impact Analysis Process* (EIAP) (32 CFR Part 989), the Air Force has conducted an EA for the construction of a boat ramp at Mullins Pit. This FONSI/FONPA has been developed pursuant to information provided in the accompanying EA.

**Finding Of No Practicable Alternative:** Eielson is an Air Force facility that operates, maintains, and trains combat forces in close air support of military operations worldwide. Eielson AFB must have adequate recreational facilities available to base personnel as prescribed by the base's Integrated Natural Resource Management Plan. Taking all the environmental, economic, and other pertinent factors into account, pursuant to Executive Order 11990, the authority delegated by SAFO 780-1, and taking into consideration the submitted information, I find that there is no practicable alternative to the filling of 510 square feet of lake bottom habitat and the construction of a boat ramp within the 100-year floodplain. The Proposed Action includes all practical measures to minimize impacts to the environment.

**Finding of No Significant Impact:** Based on this environmental assessment, which was conducted in accordance with the requirements of NEPA, CEQ, and Air Force Instructions, I conclude the construction of a boat ramp at Mullins Pit will not result in significant impacts to the environment. I also find that the preparation of an environmental impact statement is not warranted.



WILLIAM M. CORSON, Colonel, USAF  
Director, Installations and Mission Support



Date

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***Construct Boat Ramp at Mullins Pit Environmental Assessment***  
***Eielson Air Force Base, Alaska***

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## **1.0 Purpose and Need for Action**

Section 1.0 provides a description of the purpose and need for the proposed action.

### **1.1 Background and Objectives for the Proposed Action**

1.1.1 Eielson Air Force Base (Eielson) is proposing to construct a boat ramp at their Mullin's Pit recreational facility. This boat ramp will provide boat access to a large lake complex that is a popular fishing area for the base population. Currently fishing access is limited to a small portion of the shoreline.

1.1.2 Eielson was established in 1944 and is currently part of the Pacific Air Forces (PACAF) Command. The 354th Fighter Wing (FW) operates, maintains, and trains combat forces in close air support and interdiction missions in support of the war plans in three operational theaters. The 354 FW's mission is to train and equip personnel for close air support of ground troops in an arctic environment. The 168th Air Refueling Wing (ARW) is the primary tanker unit of the Pacific Rim, annually transferring over 17 million pounds of fuel in flight to predominantly active duty aircraft.

1.1.3 The developed portion of Eielson is primarily a wetland area filled by gravel to elevate potential building sites above the 100-year floodplain of nearby watersheds. Before the development of Eielson as an air base, more than 90 percent of the area was wetlands. To construct base facilities, gravel was placed in wetlands to provide a non-frost susceptible substrate. The source of this gravel has been gravel extracted from deep pits such as Mullins Pit. During the 2004 construction season, base projects required more than 125,000 cubic yards of gravel. This gravel is mined from on-base gravel pits, saving Eielson millions of dollars annually in construction costs.

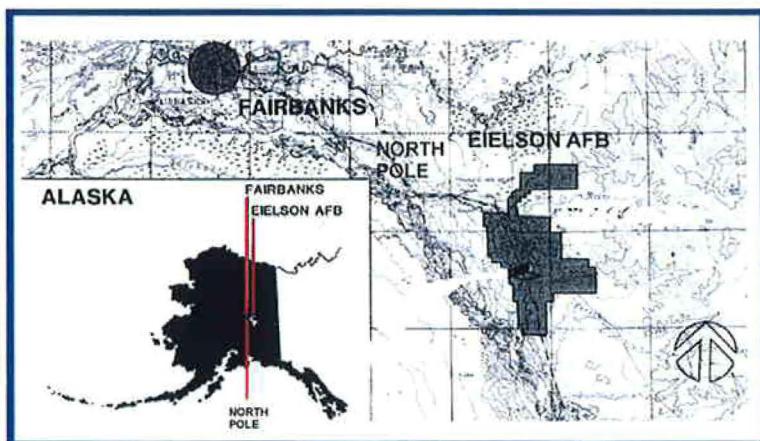
1.1.4 The development of gravel pits on Eielson has resulted in the loss of several hundred acres of low value black spruce wetlands. Eielson has worked closely with the Army Corps of Engineers, the U. S. Fish and Wildlife Service, and Alaska Department of Fish and Game to mitigate the loss of fish and wildlife habitat that has resulted from the creation of gravel pits. Mullins Pit is one of several gravel pits that has been carefully designed, operated, and progressively enhanced to provide excellent replacement fish and wildlife habitat. The pit has grown from 25 acres in 1974 to 75 acres in 2005. The pit will continue to grow as gravel is extracted, with a programmed size at completion of over 125 acres.

1.1.5 The cooperative effort between Eielson and federal and state resource agencies to design a lake system that has high quality habitat has been successful because of the emphasis on habitat diversity. The design of the lake with respect to proportions of shallow and deep water, irregular

shoreline shape, encouragement of submergent and emergent aquatic vegetation within the shallow lake margins, and the establishment of shrub vegetation along the lake's shoreline, have worked well to create the high value aquatic system that now exists at Mullins Pit. As a result of providing the demonstrated high quality habitat fish habitat, the Alaska Department of Fish and Game regularly stocks the lake with arctic char, grayling, and Chinook salmon, providing a high quality sport fishing facility.

1.1.6 In June of 2003, Eielson published a revised *Integrated Natural Resource Management Plan* (INRMP) that included management goals for natural and recreational resources on base lands. In Section 6.8, "Outdoor Recreation and Public Access," a goal and objective of the INRMP is to provide better access to recreational facilities. The proposed boat ramp at Mullins Pit will provide significantly improved access for fishing as well as boating opportunities that do not currently exist at any other base facilities.

#### REGIONAL AND BASE LOCATION MAPS



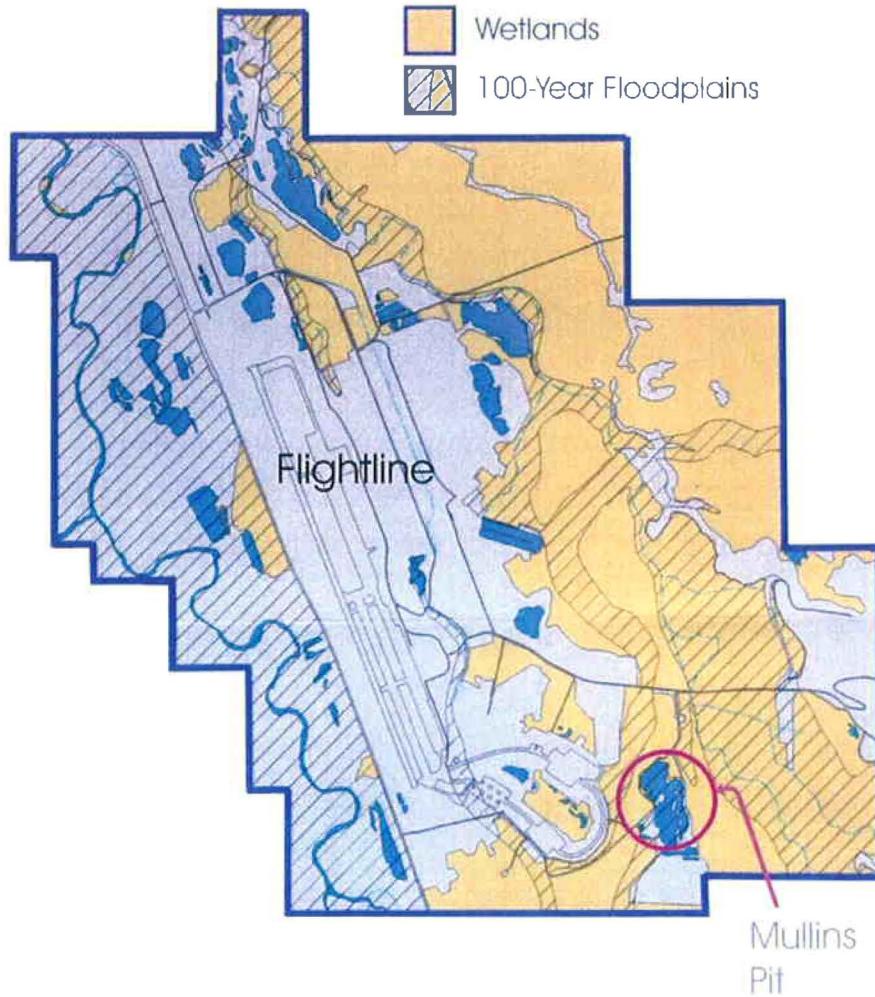
**Figure 1-1 – Location Map**

#### 1.2 Location of the Proposed Action

1.2.1 Eielson is located within the Fairbanks North Star Borough, approximately 120 miles south of the Arctic Circle and 23 miles southeast of Fairbanks (Figure 1-1). Eielson is located in the Tanana River Valley on a low, relatively flat, floodplain terrace that is approximately 2 miles north of the active river channel. Other communities near Eielson include Moose Creek to the north, and the Salcha area to the south of the base.

1.2.2 Base lands include 19,790 contiguous acres bounded on the west by the Richardson Highway and on the north and east by Army lands (Yukon Training Area). To the south, the community of Salcha borders Eielson. Of the total base acreage, over 51 percent are designated

as wetlands. Of the remaining undeveloped portions of the base, 79 percent are wetlands (see **Figure 1-2**). As a consequence, planning and utilization of Eielson lands becomes very difficult if one is to entirely avoid siting facilities and conducting activities in wetlands and 100-year floodplains.



**Figure 1-2 – Project Location and Adjacent Wetlands**

### 1.3 Decision to be Made

1.3.1 As required by 32 CFR Part 989, the *Environmental Impact Analysis Process* will be used to determine what are the environmental consequences of constructing a boat ramp at Mullins Pit. This EA is intended to satisfy these requirements. The proposed action and all alternatives considered will be addressed in detail in Chapter 2.0 of this document. A description of the resources associated with the areas affected by all alternatives will be provided in Chapter 3.0 and the impacts that could result from each one are discussed in Chapter 4.0.

1.3.2 Based on the evaluation of impacts in the EA, a Finding Of No Significant Impact (FONSI) will be published if there is a finding of no significant environmental impacts for the Proposed Action. If it is determined that the Proposed Action will have significant environmental impacts, other alternatives will be considered for which impacts may not reach the threshold of significance.

1.3.3 The EA, a draft FONSI (if applicable), and all other appropriate planning documents will be provided to the Pacific Air Forces (PACAF) Vice Commander, the decision maker, for review and consideration. If, based on a review by the decision maker of all pertinent information, a FONSI is proposed, a public notice will be published in accordance with 32 CFR 989.15(e)(2). The EA and the draft FONSI will be made available to interested agencies and the public. All interested parties will have 30 days to comment on the decision to the Air Force. If, at the end of the 30-day public comment period, no substantive comments are received, the decision maker will sign the FONSI.

1.3.4 Two Executive Orders (EOs), 11988 and 11990, require the heads of federal agencies to find that there is no practicable alternative before the agency takes certain actions impacting wetlands or floodplains. The Proposed Action would potentially impact both types of resources. To address this requirement, the Secretary of the Air Force's designated agent, HQ PACAF/CV will sign a document that addresses the issues of wetlands and floodplains that may be associated with actions the Air Force proposes to take. This document, known as a FONPA, will state which Alternative, the Proposed Action, Alternative 1, or the No Action Alternative, will be selected as the appropriate course of action. The FONPA will be combined with the FONSI into one document. It will contain documentation that there is no practicable alternative to the proposed action and that all practical measures to minimize harm to wetlands and/or floodplains has been incorporated into the project design. It will also state whether any required mitigation will be carried out.

#### **1.4 Project Scoping/Significant Issues**

This section provides a summary of all issues raised during the scoping process considered significant enough to be addressed in the EA. The scoping process typically involves meeting with potentially interested parties, including state and federal regulatory agencies that have oversight authority, and base groups that have responsibility for overseeing the development and operation of base facilities. As a result of soliciting input from agencies, several meetings were held to discuss issues associated with the project. The attendees list is found in **Section 5.0**. The Alaska Fish and Game representative provided some recommendations with regard to boat ramp design and construction and concurred that the project would benefit fishing opportunities at Mullins Pit. No other agency comments of note were provided at the scoping meeting.

#### **1.5 Federal, State, and Local Permits Needed for Project Implementation**

The Proposed Action would require an Army Corps of Engineers 404 wetlands permit.

## 2.0 Description of the Proposed Action and Alternatives

Section 2.0 provides a description of alternatives considered to achieve the purpose and need described in Section 1.0. The proposed action, one action alternatives, and the no action alternative are addressed.

### 2.1 Proposed Action

2.1.1 The proposed action would result in the following work being undertaken at Mullins Pit:

- Construct a gravel cofferdam around the proposed ramp construction site. The cofferdam would extend approximately 140 liner feet in a semi-circle around the construction site. All water would be pumped out of the cofferdam into an upland area confined by a silt fence.
- Clear and grub approximately 10,000 square feet of shoreline of existing vegetation to provide a site for the ramp. Excavate approximately 2,800 CY of soil/gravel from the ramp footprint. Place and level 150 cubic yards of gravel on the site to create a 4-inch thick aggregate base that would extend for at least 10' beyond the mean low water line of Mullins Pit and at least 20' above the mean high water line. The ramp should have a slope above the water line of 4 percent to 8 percent and below water slope a slope of 14 percent.
- Fabricate concrete planks and place them side-by-side in the lake to create a ramp. The top of the planks should have tooled edges with a heavy broom finish. The number of concrete planks will depend on the total length of the ramp, which will be approximately 35 feet long.

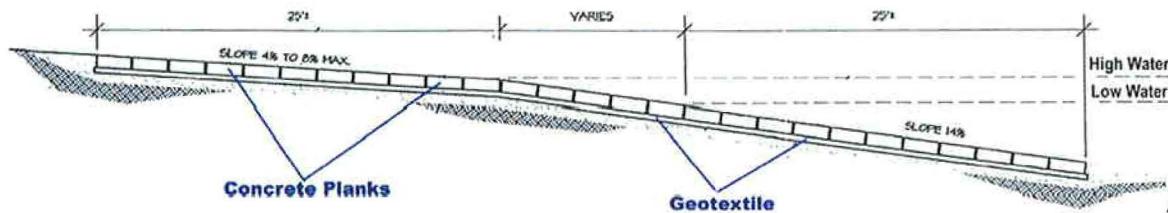


Figure 2-1 – Schematic of Proposed Boat Ramp

- Once the concrete planks are in place, joint aggregate should be placed in all of the spaces between the planks. Once all construction of the ramp is complete, the water would be pumped back into the construction area. The pumped water will be given

an adequate time for any suspended sediments to settle. After this has occurred, the cofferdam walls would be removed and deposited on an upland site.

- All disturbed areas and exposed soil along the lake shoreline will be seeded to ensure that no erosion of soils into the lake occurs.



**Figure 2-2 – Proposed Ramp Location**

## **2.2 Alternative 1 – Construct Two Fishing Piers**

2.2.1 In addition to the Proposed Action, one other action alternative was considered. This alternative would require the following construction activities occur at Mullins Pit:

- Install 52, 8-inch in diameter pressure treated wooden pilings to serve as a foundation framework for the two fishing piers. Pilings would be installed with a hydraulic hammer. Pilings would be of various lengths since the water increases in depth as you get closer to the middle of the lake.
- Fabricate two 50-foot-long by 10-foot-wide plank piers with railings. Planks and railings would be made of pressure treated wood.
- The piers would be anchored to the shoreline of Mullins Pit by concrete walkway aprons.
- All disturbed areas along the shoreline of Mullins Pit would be seeded to prevent erosion of soils.

2.2.2 Although it would provide additional sport fishing access to the Mullins Pit fishery, the construction of two fishing piers, 50 feet into Mullins Pit, could create a safety hazard. If, at a later date, boats were permitted for use in the lake, there could be a conflict with boat traffic. **Figure 2-3** depicts the proposed location of the two piers.



**Figure 2-3 – Proposed Pier Locations**

### **2.3 No Action Alternative**

This alternative would result in no improvement to the sport fishing opportunities at Mullins Pit.

### **2.4 Alternatives Considered but not Considered Further in the Analysis**

During the early planning stages of this project, various alternatives were discussed that would address the purpose and need stated in Section 1.1 of providing better access for sport fishing at Mullins Pit. One alternative considered was for the base Outdoor Recreation Department to purchase boats and have them available for rent along the shore of Mullins Pit. These boats would be put in the water by a crane at the beginning of the summer season and removed in the fall at the end of the season. This alternative would require an Outdoor Recreation employee to be present to rent the boats. This alternative was judged to be impractical and too costly.

### **3.0 Affected Environment**

This section describes relevant resource components of the existing environment that might be impacted by the proposed project and its alternatives. Only environmental components relevant to the issues and objectives of this EA are described.

#### **3.1 Physical Environment**

Eielson encompasses approximately 19,790 acres and is isolated from major urban areas. The portion of Eielson that contains the project areas associated with the proposed action and alternative 1 lies on the abandoned floodplain of the Tanana River, with elevations ranging from 525 to 550 feet above Mean Sea Level (MSL). The surface of the floodplain is relatively smooth and slopes gently downward to the northwest at a gradient of about 6 feet per mile.

##### **3.1.1 Geology**

Eielson lands were not glaciated during the last ice age. The majority of the subsurface geologic formations of the central plateau of Alaska are primarily from the Permian and Devonian periods of the Paleozoic era. Hills northeast of the base are composed of Precambrian and Paleozoic-age schists, micaceous quartzites, and subordinate phyllite and marble. These formations have been locally intruded by a series of Cretaceous lower tertiary intrusions.

##### **3.1.2 Soils**

Soils in the Tanana River Valley consist of unconsolidated silty sands and gravels, organic and sandy silts, and clays. Floodplain soils nearest the active channels are sandy with a thin silt loam layer on the surface. On higher terraces, the soils become predominately silt from the Salchaket series. Along older river terraces, silt loam soils, which contain significant organic components, often dominate. These soils tend to be cold and wet and are generally underlain by permafrost. Approximately two-thirds of Eielson is covered with soils containing discontinuous permafrost. This preponderance of permafrost soils contributes to the large percentage of vegetated wetlands occurring on undeveloped base lands.

##### **3.1.3 Groundwater**

Eielson is located over a shallow unconfined aquifer. The aquifer is approximately 250 feet thick, extends to bedrock, and has a regional gradient of about 5 feet per mile flowing to the north-northwest. The water table varies from the surface in adjacent wetlands to 10 feet below ground level in developed areas. The base uses the local aquifer for its drinking water and monitors groundwater quality in a number of locations as part of its Installation Restoration Program. Localized contamination of the aquifer has been identified in the industrial area of the base, but the overall quality of groundwater at Eielson is good.

### 3.1.4 Surface Water

3.1.4.1 Aquatic bodies on Eielson include streams, wetlands, and lakes. There are approximately 28 miles of streams; 10,133 acres of wetlands; 12 lakes (11 are man-made); 80 ponds (10 are naturally-occurring and 70 man-made) totaling 560 acres. There are 6,770 acres of land within the 100-year floodplain on the main base. The man-made lakes and ponds were created during the excavation of gravel deposits for use as fill material for construction projects on base. Mullins Pit is an example of a lake created from gravel mining (see **Figure 3-2**).

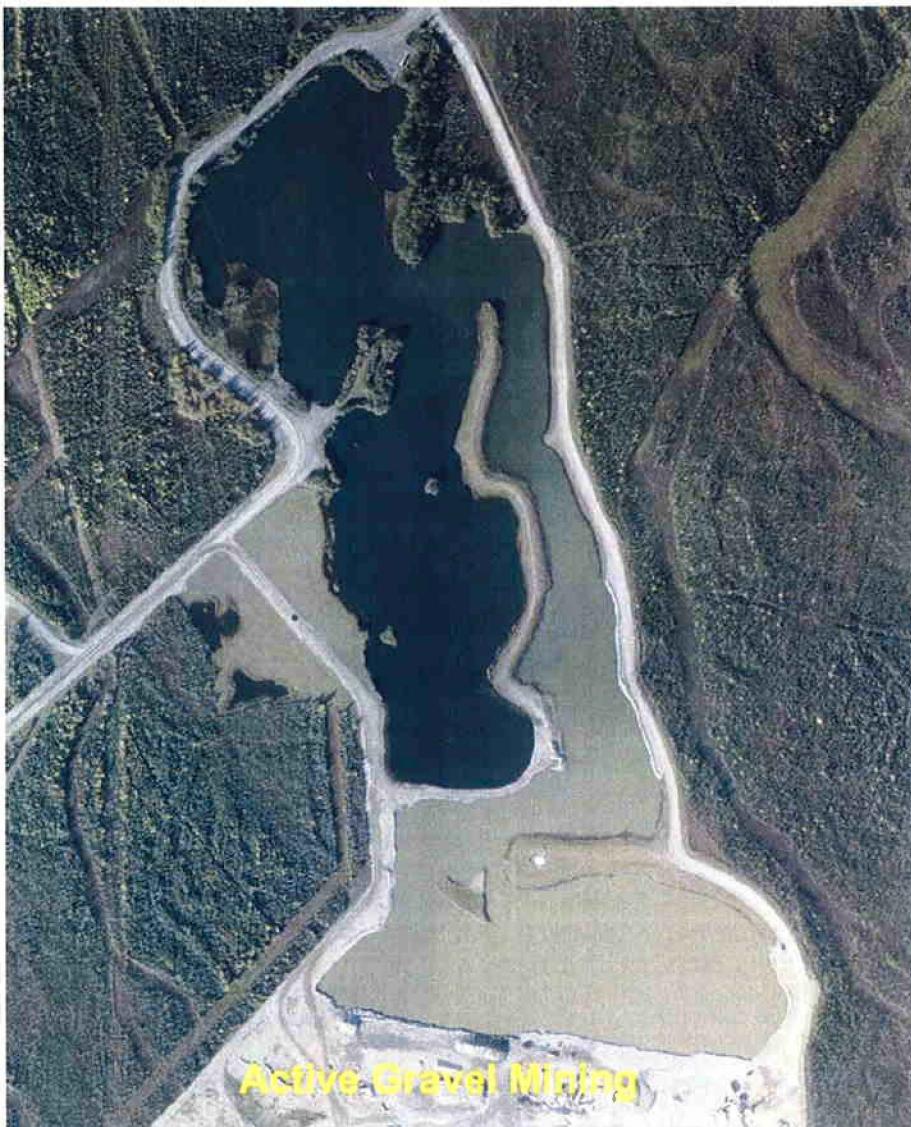


Figure 3-2 – Mullins Pit Lake Complex

3.1.4.2 Approximately 51 percent, or 10,133 acres, of Eielson is classified as wetlands, with 9,391 acres being vegetated wetlands and the remainder being lakes, ponds, and streams. Wetlands and low gradient alluvial streams comprise most of the surface water resources on Eielson, with wetlands dominating the low-lying areas within and surrounding the installation. Most wetland areas were created as a result of surface waters becoming trapped in the thawed layer over the permanently frozen subsurface (permafrost). Flood periods tend to occur during spring snowmelt and during the middle to late summer, when heavy rains or warm air quickly brings glacier fed mountain streams to flood capacity. Several lakes and extensive wetlands surround the airfield in the cantonment area. Among these are Bear, Polaris, Moose, Hidden, Pike, Rainbow, Scout, Grayling, and Tar Kettle lakes. Creeks that can be found in the vicinity of the airfield include French and Moose creeks.

3.1.4.3 Piledriver and Garrison sloughs are the two largest streams in the vicinity of the airfield. Piledriver Slough, which discharges into the Tanana River, is located along the western edge of Eielson and approximately 4,000 feet west of the airfield and parallel to the runways. Approximately 12 miles of Piledriver Slough occurs on Eielson. The slough receives no runoff from the urban developed area of the base and has good water quality.

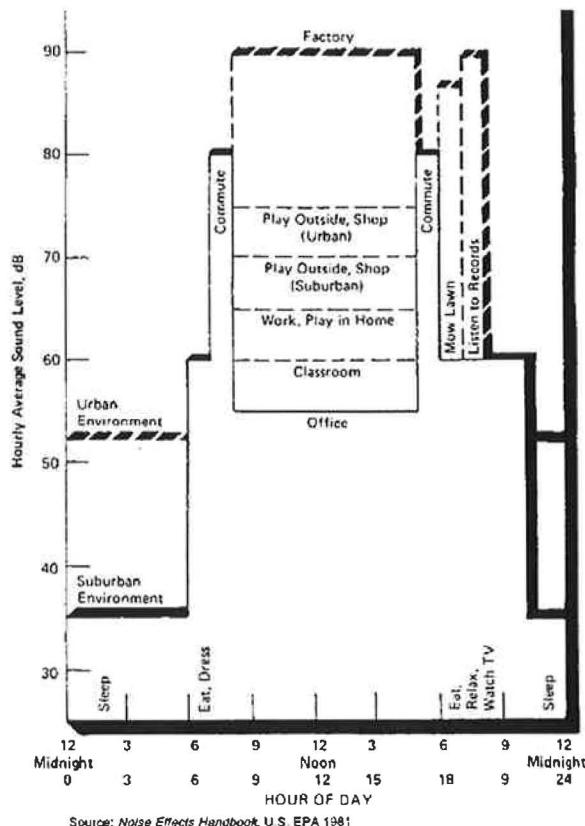


Figure 3-1 - Noise Levels

### 3.1.5 Noise

Aircraft generate by far the most noise on Eielson. Noise levels associated with aircraft during flying hours can exceed 80 decibels (dB) in the vicinity of the flight line; however, the decibel level drops off to a maximum of 70-dB in the closest residential area, Moose Creek, just north of the base. A 65-dB level is not recommended for housing areas by EPA standards (Noise Effects Handbook, US EPA, 1981). Construction noise is potentially another source of noise, but it is not considered to be a concern due to its temporary nature and relatively low dB level.

**Figure 3-1** is a chart that provides a scale of noise levels associated with typical daily activities.

### 3.1.6 Air Quality

Air quality is generally good at Eielson. Although portions of the North Star Borough, of which Eielson is also a part, are in non-attainment for carbon monoxide (Fairbanks and North Pole), Eielson is far enough south to not be included or affected. The Clean Air Act designates areas as attainment, non-attainment, maintenance, or unclassified with respect to their compliance with National Ambient Air Quality Standards (NAAQS). Non-attainment and maintenance areas are locales that have recently violated one or more of the NAAQS and must satisfy the requirements of State or Federal Implementation Plans (SIPs or FIPs) to bring them back into conformity with the applicable air quality standards. Eielson is located in an *unclassified* area, and therefore activities that generate emissions do not need to satisfy the requirements of the EPA ruling *Determining Conformity of General Federal Actions to the State or Federal Implementation Plans*.

### 3.1.7 Cultural Resources

In 1994, Eielson contracted for the preparation of a predictive model for the discovery of prehistoric cultural resources on base lands. The predictive model was then used to conduct an evaluation of cultural resources on Eielson as required by Section 110 of the National Historic Preservation Act. The areas associated with the Proposed Action and Alternative 1 have been determined to not contain cultural or archeological resources. In the event that during project excavation/construction any cultural resources were encountered, activities would cease until the resources were evaluated.

## 3.2 Biological Resources

### 3.2.1 Vegetation

The vegetation of the Tanana River Valley in the vicinity of Eielson is typical of boreal forest or taiga habitats. The boreal forests of Eielson are predominantly evergreen forests dominated by black spruce and white spruce (*Picea glauca*), but also include extensive stands of deciduous forests containing paper birch (*Betula papyrifera*), quaking aspen (*Populus tremuloides*), and balsam poplar (*P. balsamifera*). Extensive areas of shrub and herbaceous vegetation are found in wetlands, lowland areas, and the active floodplain, and are dominated by willows and other

shrubs, sedges, and grasses. Bog areas are dominated by black spruce stands intermixed with peat moss (*Sphagnum* spp.) and cottongrass (*Eriophorum vaginatum*).

### **3.2.2 Aquatic/Fishery Resources**

3.2.2.1 Lakes and streams on Eielson contain both native fish and fish stocked by the Alaska Department of Fish and Game. Native fish found in the Tanana River drainage include chinook salmon (*Oncorhynchus tshawytscha*), chum salmon (*O. keta*), silver salmon (*Oncorhynchus kisutch*), burbot (*Lota lota*), arctic grayling (*Thymallus arcticus*), northern pike (*Esox lucius*), chub (*Semotilus* spp.), several species of whitefish (*Coregonus* spp.), sheefish (*Stenodus leucichthys nelma*), rainbow trout (*Oncorhynchus mykiss*), and arctic char (*Salvelinus alpinus*).

3.2.2.2 The Alaska Department of Fish and Game stocks six lakes and one stream on Eielson AFB: Grayling Lake, Hidden Lake, Polaris Lake, 28 Mile Pit, Moose Lake, and Piledriver Slough. Fish stocked by the Alaska Department of Fish and Game includes rainbow trout, arctic grayling, arctic char, silver salmon, Chinook salmon, chum salmon, and northern pike.

3.2.2.3 Mullins Pit is also stocked by the state. The lake has become a popular fishing location for base residents. The best fishing is currently located in the areas where access is limited due to heavy riparian vegetation growing on the shoreline. The installment of a fish ramp should significantly improve sport fishing opportunities at Mullins Pit.

### **3.2.3 Wildlife Resources**

3.2.3.1 The surrounding Tanana Valley provides breeding habitat for a wide variety of migratory bird species. Bird species found on Eielson include spruce grouse (*Dendragapus canadensis*), ruffed grouse (*Bonasa umbellus*), northern goshawk (*Accipiter gentilis*), sharp-shinned hawk (*A. striatus*), great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). During winter, willow ptarmigan (*Lagopus lagopus*) and rock ptarmigan (*L. mutus*) are common on Eielson AFB. Over 20 species of waterfowl, including geese, ducks, loons, grebes, and scoters use aquatic habitats on the installation.

3.2.3.2 There are 32 species of mammals found on Eielson. Common species include moose (*Alces alces*), black bear (*Ursus americanus*), grizzly bear (*U. arctos*), snowshoe hare (*Lepus americanus*), marten (*Martes americana*), red squirrel (*Tamiasciurus hudsonicus*), beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), mink (*Mustela vison*), meadow vole (*Microtus pennsylvanicus*), red-back vole (*Clethrionomys rutilus*), and meadow jumping mice (*Zapus hudsonius*).

### **3.2.4 Threatened and Endangered Species**

No threatened or endangered species, as designated by the US Fish and Wildlife Service, typically occur in any of the project areas included in the two action alternatives. This was the conclusion of an Eielson contract study entitled *Biological Survey, Final Report 1994*, that

addressed the potential for the presence of endangered species on base lands. Recent observations and avian surveys continue to support this likelihood.

## 4.0 Environmental Consequences

Section 4.0 discusses the probable impacts for each alternative described in Section 2.0. This section is organized according to resources and a discussion of each alternative action is provided relative to resources identified as relevant in Section 3.0.

### 4.1 Physical Environment

#### 4.1.1 Geology/Soils

4.1.1.1 *Proposed Action:* Construction of the project at the proposed location would alter the physical environment mainly by the excavation of frost susceptible (silts and clays) in the footprint of the proposed boat ramp. The excavated material would be stockpiled and eventually disposed of at an acceptable site. A layer of aggregate soils would be laid in place of the removed silts and clays.

4.1.1.2 *Alternative 1:* Alternative 1 would result in minor disturbance to soils on the shoreline where the concrete walkway/apron would be constructed to anchor the two piers. Installing the treated wood pilings would result in little impact to soils as they would be driven by a hydraulic hammer.

4.1.1.3 *No Action Alternative:* There would be no impacts to soils from this alternative.

#### 4.1.2 Groundwater

##### 4.1.2.1 Proposed Action

4.1.2.1.1 Mullins Pit is a lake formed by the excavation of gravel in the floodplain of a river. When excavation occurs below groundwater depths (typically 6 to 10 feet), groundwater is invariably reached during excavation. If construction activities associated with installing the boat ramp are conducted in a careful manner, such as keeping fuels and other hazardous materials used by equipment away from areas that surface runoff could drain into the lake area, then little or no impacts should occur. Fueling of equipment is done in areas well away from the pit areas. Also, if spills do occur, operators at the pit are required to have cleanup equipment on-site for immediate cleanup.

4.1.2.1.2 In addition to impacts associated with the construction of the boat ramp, there could also be impacts to groundwater from motorized boats that will operate on the lake once the ramp is operational. Similar concerns to that described in the previous section could exist. Signs reminding the public users to be careful with fuel and instructions with emergency phone numbers that can be called in case of other than small quantity spills would need to be posted.

4.1.2.2 *Alternative 1:* Since this alternative would require floating hydraulic equipment out into the lake to pound the pier posts into the bottom of the lake, more opportunity for a spill could

occur. Again, taking the proper safeguards to avoid fuel spills and having spill equipment on-site to respond to a spill if it does occur would ensure that the risk of groundwater impacts would be minimal.

**4.1.2.3 No Action Alternative:** The no action alternative would not result in impacts to groundwater.

#### **4.1.3 Surface Water**

**4.1.3.1 Proposed Action:** Once the ramp is constructed there will be use of the lake by boats with gasoline motors. Some low-level discharge of petroleum products into the lake will likely occur. However, as described in the previous section, instructional signs at the boat ramp would be used to educate boat operators.

**4.1.3.2 Alternative 1:** Impacts to surface water from discharges of fuel or other petroleum products could occur during construction of the pier structures. Spill response equipment is required to be on-site for all construction projects.

**4.1.3.3 No Action Alternative:** There would be no impacts to groundwater from this alternative.

#### **4.1.4 Noise**

**4.1.4.1 Proposed Action:** Noise impacts associated with implementation of this action would be short-term and relatively low decibel compared to ambient noise levels that occur with nearby flight line aircraft operations. Noise would be associated with gravel mining machinery, and would last only for the duration of the summer construction season.

**4.1.4.2 Alternative 1:** Noise impacts for this alternative would be similar to the Proposed Action.

**4.1.4.3 No Action Alternative:** There would be no noise impacts associated with this alternative.

#### **4.1.5 Air Quality**

**4.1.5.1 Proposed Action:** Some minor, short-term impacts from emissions associated with the operation of construction machinery would result from the proposed action.

**4.1.5.2 Alternative 1:** Impacts to air quality from this alternative would be similar to those for the proposed action.

**4.1.5.3 No action alternative:** No impacts to air quality would result from this alternative.

#### **4.1.6 Cultural Resources**

No impacts to cultural resources would likely result from the proposed action or alternative 1 as cultural resources on base lands have been fairly well surveyed. Under any circumstances where cultural resources were discovered on base lands, all activities would cease until a cultural resource specialist evaluated the find. No impacts to cultural resources would occur from the No Action Alternative.

#### **4.2 Biological Resources**

##### **4.2.1 Vegetation**

*4.2.1.1 Proposed Action:* Approximately 50 feet of existing shoreline will be cleared of vegetation to construct the boat ramp.

*4.2.1.2 Alternative 1:* An area approximately 100-feet-square will be disturbed to construct the walkway aprons needed for each of the two fishing piers.

*4.2.1.3 No Action Alternative:* No impacts to vegetation would result from this alternative.

##### **4.2.2 Aquatic/Fishery Resources**

*4.2.2.1 Proposed Action:* Activities associated with the construction of the proposed boat ramp will have some minor impacts on fish due to increased turbidity levels in the water column in the immediate vicinity of the construction site. These impacts will be minimized by the construction of the coffer dam that will isolate the construction area. These impacts would be temporary in nature and once the ramp project is complete, turbidity levels would return to normal. There is also a chance of impacts to fish and other aquatic organisms from fuel spills, both during construction and also after project completion. These impacts would likely be minor as long as care was taken by facility users to minimize fuel spills.

*4.2.2.2 Alternative 1:* This alternative would also have impacts to fishery resources in the form of increased turbidity. The impacts would be more widespread since the project area is larger than that of the Proposed Action and there would be no use of cofferdams to contain the turbidity. Once construction was completed, turbidity levels would return to normal levels.

*4.2.2.3 No Action Alternative:* This alternative would have no impacts on fish or other aquatic resources.

##### **4.2.3 Wildlife Resources**

*4.2.3.1 Proposed Action:* The Proposed Action would result in the loss a small amount of bird habitat with the clearing of the shoreline vegetation.

4.2.3.2 *Other Alternatives*: No impacts to wildlife resources are anticipated from either Alternative 1 or the No Action Alternative.

#### **4.2.4 Threatened and Endangered Species**

No impacts to threatened and endangered species will result from any of the alternatives considered in this EA.

### **4.3 Cumulative Impacts**

The National Environmental Policy Act (NEPA) process requires that the issue of cumulative impacts be addressed in an environmental assessment.

4.3.1 The Council on Environmental Quality (CEQ) has stated in their NEPA regulations (1508.7) that: *“Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to past, present, and reasonably foreseeable future actions. . .”* and *“. . .can result from individually minor, but collectively significant actions taking place over a period of time.”* Eielson has, over the years, been very cognizant of the issue of cumulative impacts to wetlands. This is due to the fact that the base was, to a large extent, built by filling wetlands, and that expansion of Eielson facilities beyond the original footprint of the base often requires the use of additional wetlands. Of the 19,789 acres that constitute Eielson AFB lands, 51 percent are designated wetlands.

4.3.2 To address the potential for cumulative impacts to wetlands, Eielson has developed an active program of wetland habitat creation and enhancement. Classification of Eielson wetlands according to type and quality (as defined in Cowardin, et al, US Fish and Wildlife Service, 1979) has indicated that 93 percent of Eielson wetlands are of low-quality. Most of these wetlands are classified as black spruce or alder/willow, scrub/shrub wetlands and constitute large, homogenous blocks of land that provide minimal wetland values to wildlife. When Eielson develops a gravel source by excavating alluvial gravel deposits, it is in these black spruce wetlands. As part of the extraction process, wetlands of higher value are created (lake habitat with shallow littoral zones and emergent vegetation) from lower value black spruce and uplands. The type and quality of wetlands are particularly valuable for feeding, nesting, and brood-rearing by waterfowl, the bird species potentially most affected by the proposed project. The wetland creation/enhancement program on Eielson has been going on for several years and has the full and enthusiastic support of local, state, and federal resource agencies. In addition, resource agencies have viewed this voluntary wetlands enhancement program as more than adequate to compensate for losses that occur as part of Eielson's construction projects.

4.3.3 The Proposed Project will result in minor impacts to a small segment of existing lake shoreline at Mullins Pit, less than 0.05 acres. Alternative 1 would have even less of an impact on shoreline habitat, and only temporary impacts to the lake bottom. Neither project will result in cumulatively significant impacts to the environment on Eielson lands.

#### **4.4 Unavoidable Adverse Impacts**

Unavoidable adverse impacts would result from implementation of the Proposed Action in the form of elimination of a small segment of lake shoreline habitat. Alternative 1 would result in an even smaller amount of shoreline habitat being impacted.

#### **4.5 Relationship of Short-Term Uses and Long-Term Productivity**

Short-term uses are those that generally occur on a year-to-year or shorter term basis. The Proposed Action would result in mostly temporary short-term losses of productivity at Mullins Pit.

#### **4.6 Irreversible and Irretrievable Commitments of Resources**

None of the impacts associated with either of the action alternatives would result in irreversible or irretrievable commitments of resources.

#### **4.7 Environmental Justice**

4.7.1 President Clinton issued Executive Order (EO) 12898, *Environmental Justice in Minority Populations and Low-Income Populations*, on February 11, 1994. Objectives of the EO, as it pertains to the NEPA process, requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. To accomplish these requirements the Air Force must conduct an environmental justice analysis of all potential impacts that may result from the proposed actions.

4.7.2 The environmental justice analysis must first identify all adverse impacts associated with the project. The next phase is to delineate the potential area of impact for the resources affected. If, within this area of impact, population demographics are such that a disproportionate effect on minority or low-income populations may occur, it should be so identified. These impacts should be documented and mitigation should be developed that can be implemented by the Air Force.

4.7.3 The site for the proposed project is near the Loop Taxiway, which is an industrial area of the base. The closest residential population is base housing, approximately 2.5 miles to the north. Base housing does not exhibit any particular demographics except related to military rank. In the case of this project, the housing that is closest to the project area is officer's housing. Based on the environmental impacts identified in this EA and on a corresponding environmental justice analysis, it is felt that no disproportionate impact to minority or low-income populations would occur from implementation of this project.

#### **4.8 Mitigation**

No mitigation was required by any resource agencies that provided comments to the Army Corps of Engineers on the wetlands permit for this project.

## **5.0 Persons and Agencies Consulted**

Mr. Brent Koenen, USAF, 354 CES/CEVN, Eielson AFB, AK, ph: 907-377-5182.

Mr. Forrest McDaniel, US Army Corps of Engineers, Regulatory Functions Branch, Fairbanks, AK, ph: 907-474-2166.

Mr. Larry Bright, US Fish and Wildlife Service, Fairbanks, AK, ph: 907-456-0322.

Mr. Jim Durst, Alaska Department of Natural Resources, Habitat Management Office Fairbanks ph: 907-459-7254

## 6.0 Glossary

Alluvial - Sediment deposited by flowing water.

Environmental Impact Analysis Process (EIAP) - is a set of guidelines (Air Force Instruction 32-7061) that the Air Force uses to comply with the NEPA process.

Decibel - A unit of measurement for describing sound intensity.

Executive Order 11990 - Mandate to federal agencies to follow the NEPA process to ensure the protection of wetlands.

Habitat - The area or environment in which an organism or ecological community normally occurs.

Mean Sea Level (MSL) - The average surface level for all stages of the tide over a 19-year period, usually determined from hourly height readings from a fixed reference point.

National Environmental Policy Act (NEPA) - Legislation enacted in 1969 mandating that all federal agencies assess the environmental impacts of actions which may have an impact on man's environment.

National Historic Preservation Act - Federal mandate that requires the preservation of prehistoric and historic sites.

Non-Attainment Area - An area exceeding National Ambient Air Quality Standards for one or more criteria pollutants.

Permafrost - Permanently frozen subsoil occurring in perennially frigid areas.

Riparian - Living or located on a riverbank or a natural course of water.

SAFO 780-1 - Secretary of the Air Force Order and reference number.

Seasonally Persistent - Persistence is based on historical records and field evidence that indicates an area is seasonally inundated with water during non-frozen (spring/summer) portions of the year.

Turbidity - Cloudy or hazy appearance in a naturally clear liquid caused by a suspension of colloidal liquid droplets or fine solids.

Understory - A foliage layer occurring beneath and shaded by the main canopy of a forest.

Upland - An area of land of higher elevation, often used as the opposite of a wetland.

Wetlands - Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

404 Wetland - Wetland areas that have been determined “waters of the United States” and thus subject to Section 404 wetland permitting guidelines administered by the Army Corps of Engineers and the US Environmental Protection Agency.

Wetland Functional Value - A methodology that identifies the type, quantity, and quality of an ecosystem, and uses or potential uses of wetlands in the vicinity of a proposed project.

100-Year Floodplain - Based on historical evidence, there is a high probability that the area within the 100-year floodplain will be flooded once every 100 years.

**7.0 Project Wetlands Permit**



REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, ALASKA  
3437 AIRPORT WAY  
SUITE 208 WASHINGTON PLAZA  
FAIRBANKS, ALASKA 99709-4777

Regulatory Branch (1145b)  
North Section

PERMITTEE: United States Air Force, Eielson Air Force Base, Alaska

EFFECTIVE DATE: May 3, 2006

REFERENCE NUMBER: POA-1989-0594-U, Chena River

DEPARTMENT OF THE ARMY  
PERMIT MODIFICATION

Department of the Army permit number 4-890594, Chena River 132, was issued to the United States Air Force, Headquarters, 343D Combat Support Group, Eielson Air Force Base, Alaska on April 17, 1990, to:

"Place approximately 125,160 cubic yards (cy) of dredged overburden material into approximately 7.75 acres of wetlands located around the perimeter of the existing Mullins gravel pit. Temporarily stockpile approximately 60,000 cy of gravel on site in 0.5 acres at any one time. Place approximately 5,037 cy of dredged pit-run gravel in less than one acre of wetlands to construct a 1,000' long x 42' wide (bottom width) x 4' high access road. Upon completion of the excavation activities, approximately half the overburden will be pushed back into the pit, leaving 4' high piles to enhance waterfowl and fisheries habitat."

The permit was modified (M-890594) on July 19, 1990, as follows:

"Place an additional 963 cy of dredged pit-run gravel in less than one acre of wetlands to construct the 975' long x 50' wide (bottom width) x 4' high access road. Also, place an additional 3,714 cy of dredged overburden into 0.23 acres of wetland to expand the pit."

The permit was modified (N-890594) on February 25, 1992, as follows:

"Place approximately 100,430 cubic yards of dredged/fill material into 6.25 acres of wetlands as part of a gravel extraction project, and included 4 special conditions."

The permit was modified (O-890594) on January 31, 1995, authorizing an extension of the time limit for completing the authorized work to February 25, 2000.

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The permit was modified (P-890594) on November 21, 1997, as follows:

"The mechanized land clearing of 54.1 acres; the discharge of 87,821 cubic yards (cy) of hydroaxed vegetation and overburden, excavation of an undetermined amount of overburden and gravel, and the temporary stockpiling of up to 60,000 cy of gravel at a given time within waters of the United States (wetlands). The discharge of overburden and vegetation materials is authorized to construct islands, peninsulas, and a 20' wide littoral zone within the gravel pit. The exact location and size of the islands and peninsulas will be dependent upon the amount and location of usable gravel and topsoil."

The permit was modified (Q-890594) on May 2, 2000, as follows:

"Discharge an additional 14,109 cubic yards of recycled asphalt product (RAP) fill into 5.3 previously filled acres of waters of the United States (wetlands) in association with the resurfacing of 7,696 linear feet of the Mullins Pit access roads."

The permit was modified (R-890594) on July 13, 2000, as follows:

"Discharge an additional 2,384 cubic yards of clean gravel fill into 0.54 acres of waters of the United States (wetlands) in association with the widening of the road shoulders for the Mullins Pit access road. The time limit for completing the work authorized ends on July 31, 2005."

The permit was modified (S-890594) on November 29, 2001, as follows:

"The discharge of approximately 836,050 cubic yards of fill material into approximately 60.4 acres of waters of the United States, (wetlands). Approximately 99 acres of wetlands will be hydroaxed and excavated with a maximum of 60.4 acres of fill material placement for the creation of peninsulas, islands, a 20-foot wide littoral zone, and the temporary stockpile of overburden and excavated material."

The permit was modified (POA-1989-594-T) on June 14, 2005, as follows:

"The time limit for completing the work authorized ends on June 30, 2008."

The permit is hereby modified (POA-1989-594-U) as follows:

"The discharge of approximately 11.2 cubic yards of gravel, 2.28 cubic yards of concrete planks, and 0.05 cubic yards of wooden sill into approximately 176 square feet of wetlands to construct a stable base for a boat ramp in Mullins Pit. All work will be completed in accordance with the attached plans, sheets 1-4."

In accordance with your request, General Condition No. 1 of the permit is hereby amended to read as follows:

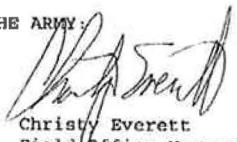
-3-

The time limit for completing the work authorized ends on May 31, 2009. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

All other conditions under which the subject authorization was made remain in full force and effect.

This authorization and the enclosed modified plans should be attached to the original permit.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:



Christy Everett  
Field Office Manager

Enclosures

## **8.0 Public Notice**

### **USAF ANNOUNCES ENVIRONMENTAL ASSESSMENT**

In accordance with the National Environmental Policy Act (NEPA), Eielson AFB has completed an environmental assessment and Finding of No Significant Impact (FONSI) to evaluate the consequences of the following stated proposed action. Construct a small boat ramp at Mullins Pit. The boat ramp is intended to provide improved sport fishing access to the lake. The project would result in impacts to 510 square feet of lake bottom habitat.

#### **PUBLIC COMMENT WELCOME**

Construct a small boat ramp at Mullins Pit. The boat ramp is intended to provide improved sport fishing access to the lake. The project would result in impacts to 510 square feet of lake bottom habitat.

To review the draft EA and FONSI, copies are available at the Noel Wien Library in Fairbanks. The public is invited to review these documents and make comments during the 30-day comment period from now until May 15, 2006. To get a copy of the EA, to comment, or for more information contact Jim Nolke, Eielson AFB Environmental Flight, at (907) 377-3365, or by mail at 354 CES/CEVP, 2310 Central Ave, Ste 100, Eielson AFB, AK 99702-2299.

*This public notice appeared in the Fairbanks Daily News Miner on 13 April 2006.*